

MANEUVER CONTROL SYSTEM (MCS)



The Maneuver Control System (MCS) is the central command and control system for Army maneuver elements in battalion through corps echelons. MCS consists of a network of computer workstations that integrate information from subordinate maneuver units with those from other Army Battle Command System battlefield functional areas to create a joint common data base referred to as the Common Tactical Picture. Tactical information products, such as situation maps and reports, allow the display and manipulation of this information. MCS also provides a means to create, coordinate, and disseminate operational plans and orders. MCS's role in communicating battle plans, orders, and enemy and friendly situation reports makes it a key component of the Army's ongoing effort to digitize the battlefield. MCS capabilities are being developed in blocks. The MCS Block III initiated, and the current Block IV increases, the integration between the various Army Battle Command Systems (ABCS): All Source Analysis System, Forward Area Air Defense System, Advanced Field Artillery Tactical Data System, Combat Service Support Command System, and Force XXI Battle Command Brigade and Below (FBCB2).

BACKGROUND INFORMATION

In 1980, the Army fielded the first MCS system with limited command, control, and communications capabilities to VII Corps in Europe. In 1987, the Army performed post-deployment tests on MCS software Version 9 which led the Army Materiel System Analysis Activity to conclude that MCS did not exhibit adequate readiness for field use and that further fielding should not occur until the problems were resolved. The Army fielded Version 10 in October 1988. These early versions of MCS are no longer in the force structure.

In 1996, the Army postponed the Block III IOT&E and initiated development of MCS Block IV. This effort involves substantially different software, including the required Defense Information Infrastructure Common Operating Environment. An operational assessment in 1997 supported limited procurement of Block III for the training base. The Army conducted the MCS Block III IOT&E in June 1998. DOT&E concluded that MCS Block III was neither operationally effective nor operationally suitable. The Army subsequently restructured the MCS program, did not field the Block III, and designated the Block IV as the version planned for testing in an IOT&E to support the full-rate production decision.

The Army has restructured the battlefield digitization architecture since the Block III IOT&E. FBCB2 is no longer a separate system in the Tactical Operations Centers (TOC), but resides as a software module on the MCS and TOC server to support processing of incoming situational awareness information. MCS also provides the common software modules, such as the Joint Common Data Base and Common Message Parser that support creation of the Common Tactical Picture by allowing the ABCS systems to share data and messages.

TEST & EVALUATION ACTIVITY

The MCS Block IV IOT&E planned to collect data in a series of five events starting in December 2000 and concluding with a combined IOT&E with the FBCB2 in December 2001. Software development and performance difficulties forced postponement of formal MCS IOT&E evaluation. An Independent Developmental Test completed in June 2001 and subsequent Production Prove-out Test in July 2001 confirmed that the development was not proceeding as planned. As a result, the Army cancelled evaluation of the MCS in the Division Capstone Exercise 2 and postponed the MCS IOT&E for a year. Postponement of the IOT&E led to a review of the MCS operational requirements and revision of the test strategy.

TEST & EVALUATION ASSESSMENT

The MCS Block IV effort is complex and requires developing, integrating, and configuration management of diverse software components including commercial and government furnished foundation products and software from the other ABCS programs. The developmental testing and operational assessments completed in 2001 demonstrated the development and integration of software was not providing the required capabilities to meet the scheduled IOT&E in December. The Army correctly postponed the MCS IOT&E until software was more mature and integration had proven successful. The new test and evaluation strategy projects an MCS Block IV IOT&E no earlier than November 2002. The Army is taking this time to review the operational requirements, revise the acquisition strategy, and define a test strategy through the Integrated Product Team process.

Future testing of MCS requires the ABCS system-of-systems environment, including FBCB2 and division-level TOC dispersion and displacements, to demonstrate the ability of MCS to maintain the common tactical picture for the maneuver force on a dynamic battlefield. The importance of movement for TOCs cannot be overstated, particularly with the growing emphasis that the threat is placing on disruption and destruction of our command and control capabilities, and the reliance on mobility to enhance survivability in the Army's transformation to lighter forces.

The ability to evaluate ABCS components as individual programs is becoming more difficult as the Army continues to integrate the software and foundation products that comprise these systems, as well as the information into the Common Tactical Picture. An assessment of operational effectiveness and suitability is no longer limited to what the system provides within a single functional area, but now expands to what the integration of that information with other functional areas contributes to the commander's ability to prosecute the mission using MCS. Testing must include all the ABCS components to assess operational effectiveness and suitability. The Department should consider Capstone acquisition, development, testing, and fielding strategies to more effectively and efficiently support, fund, and synchronize the ABCS programs.